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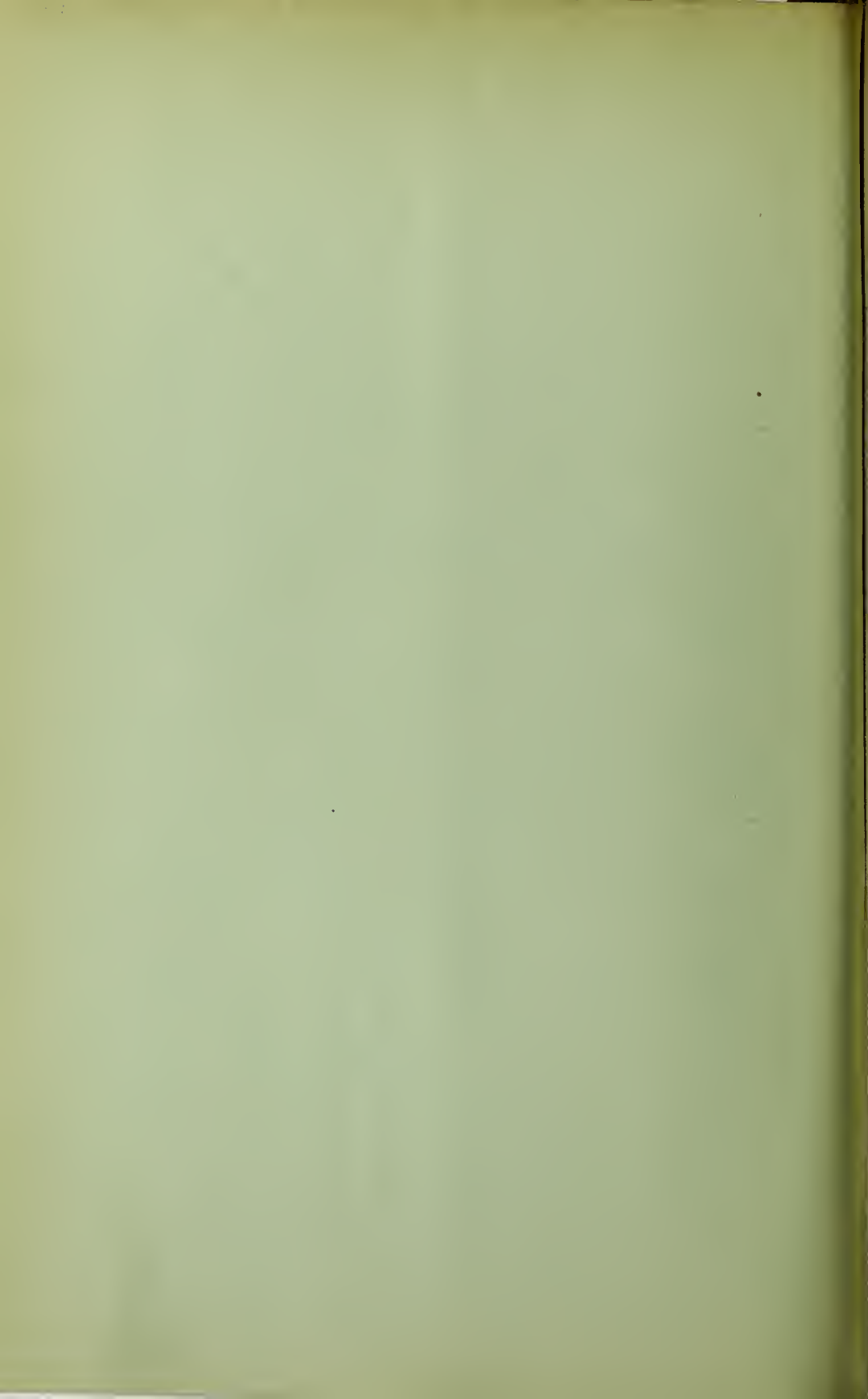
— BY —

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## "A SKIASCOPY DISK."

BY DR. S. MITCHELL.

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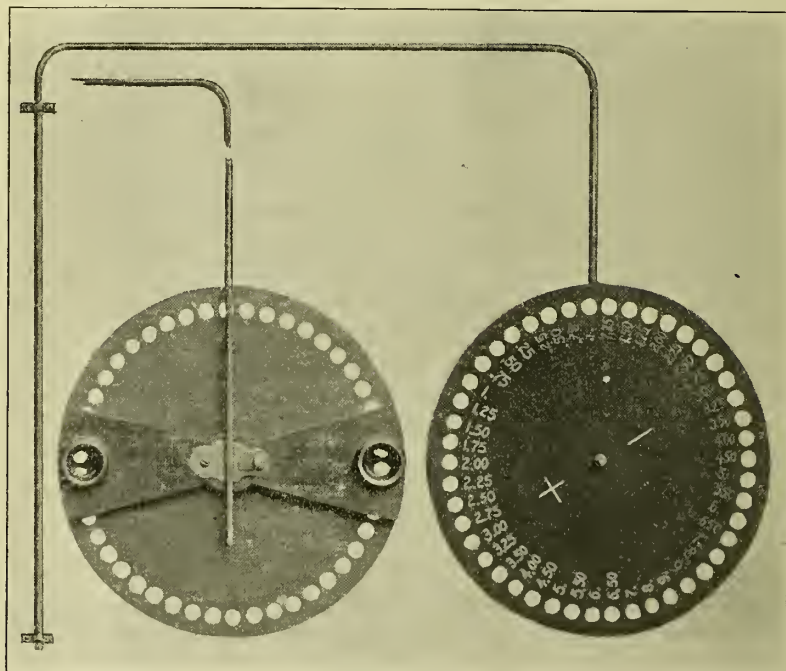
Oculist and Aurist to St. James Mercy Hospital. Oculist to the Erie Railroad.

ILLUSTRATED.

The accompanying illustrations are fair representations of a skiascopy disk that I have, in the past five years, come to regard as indispensable in the employment of this most valuable objective test for ametropia. I am fully aware that there is nothing new or novel in a disk of this sort. I first saw a description of one about five years ago in "*The American Journal of Ophthalmology*." I cannot now recall by whom it was written. It was from this article, and an illustration that accompanied it, that I received the idea, and took pattern for the construction of my disk.

The only excuse that I can offer for presenting a description of the disk, is to show how one of these useful adjuncts to the oculist's armamentarium, may be procured without any great expense. It is constructed entirely of wood, is 16 inches in diameter, and has 46 apertures near its outer border for the reception of lenses, that are three-fourths of an inch in diameter. This work was all done for me by the Frost Veneer Seating Company of 208 Canal street, New York. It cost, including expressage \$1.50. It is made by glueing two birchwood veneers to either side of a thin piece of whitewood. The grain of the wood is made to cross in such a manner that there is absolutely no warping, although it is but  $\frac{3}{4}$  of an inch thick. The immediate application of a wood filler, and painting the whole a dead black, was of course instrumental in preventing any warping. The lenses were made from discarded spectacle lenses, such as every oculist, who keeps a stock of lenses, is sure to accumulate on account

of odd sizes, or from having the edges slightly nicked. These were ground to the proper size and shape by my optician, and by means of a little glue they were easily and securely fitted into the disk.



The lenses are of all foci, from 0.25 D to 9. D, that it is practical to employ in skiascopy. There are twenty-three of each, plus and minus. The numbering of the lenses, convex in white and concave in red, is done in figures of sufficient size to be easily read at ten feet. The disk turns on a  $\frac{1}{8}$ -inch iron bolt, that passes through the hour-glass-shaped piece at the back of the disk. This piece is of cherry, and is  $\frac{3}{8}$  of an inch thick. Apertures, fitted with elevated eye pieces, are in either end of this piece, and correspond exactly to the lenses in the disk. In the center of the piece is a clamp, made of sheet-iron and worked with a thumbscrew. This holds the whole apparatus upon the rod, or admits of any adjustment of the same. The rod is a  $\frac{3}{8}$ -inch brass veneered curtain rod, six feet long and bent to form three sides of a square. One side is secured to the wall in the dark room, at a convenient distance from the floor, by means of a loop and socket. The opposite side holds the disk. Thus it can be

swung into the room a distance of two feet, and brought before the right or left eye of the patient who is seated before an adjustable gas bracket. The turning of the disk is intrusted to the patient, and as the whole apparatus is so light and simple, it can be easily and satisfactorily manipulated by any person, endowed with sufficient intellect to manifest a desire for relief from eye strain.

In practicing skiascopy with the assistance of the disk, I consider any additional appliance, whereby cylinders can be employed in determining the amount of astigmatism, as superfluous and unnecessary.

While making an examination, the light is placed slightly above and back of the patient's head. Then I seat myself directly in front, and about four feet from my patient, who is directed to fix the eyes upon a small dot on the wall fifteen or twenty feet away, and slightly above the level of the eyes. I always use the concave mirror of the ophthalmoscope. The movement of the shadow in every meridian is carefully noted, as each successive spherical lens of increased strength, is brought before the eye, until the meridian of the least ametropia is reached.

This will be clearly indicated, by a reversing of the shadow movement in this meridian, even to the last quarter of a dioptré. The amount of ametropia in one principal meridian having been determined and recorded, it is a very simple matter to proceed with the test until the point of reversal is reached in the other; and the total amount of error is thus determined. If the case be one of simple astigmatism, the task of ascertaining and recording the same is accordingly simplified. My method of recording the findings of the skiascopy test, is by means of a large  $+_1T^{+2}$  for each eye. This is drawn with the desired inclination in each case, to cause the lines to indicate the two principal meridians. These simple sketches, with the annexed + or — signs, and the figures to indicate the amount of error in each meridian, are invaluable assistants to have at one's command during the subjective test that follows.

